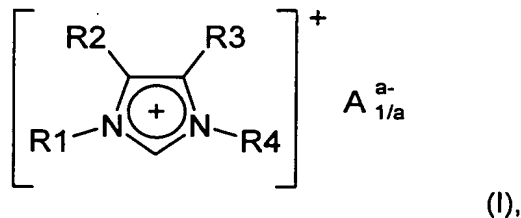


We claim:

1. A process for preparing purified 1,3-substituted imidazolium salts of the formula (I)

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where

- 10 * the radicals R¹, R², R³ and R⁴ are each, independently of one another, a carbon-comprising organic, saturated or unsaturated, acyclic or cyclic, aliphatic, aromatic or araliphatic radical which has from 1 to 30 carbon atoms and may comprise one or more heteroatoms and/or be substituted by one or more functional groups or halogens, where adjacent radicals R¹ and R², R² and R³ or R³ and R⁴ may also be joined to one another and the radicals R² and R³ may each also be, independently of one another, hydrogen, halogen or a functional group;
- 15

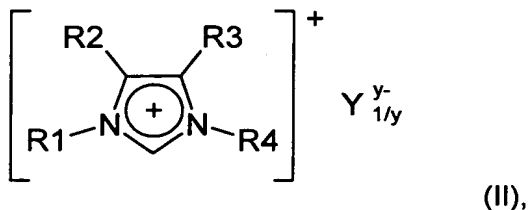
and

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- * A^{a-} is the partly or fully deprotonated anion of an inorganic or organic protic acid H_aA (III), where a is a positive integer and indicates the charge on the anion,

25

by reacting a 1,3-substituted imidazolium salt of the formula (II),



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where the radicals R¹, R², R³ and R⁴ are as defined above and the anion Y^{y-} is the partly or fully deprotonated anion of an inorganic or organic protic acid H_yY (IV), where y is a positive integer and indicates the charge on the anion, with

a strong base at from 20 to 250°C while distilling off the 1,3-substituted imidazol-2-ylidene formed, wherein the 1,3-substituted imidazol-2-ylidene which has been distilled off is brought into contact in the gaseous state with the protic acid H_aA (III) and/or the 1,3-substituted imidazol-2-ylidene which has been distilled off is passed in the gaseous or condensed state into a receiver comprising the protic acid H_aA (III).

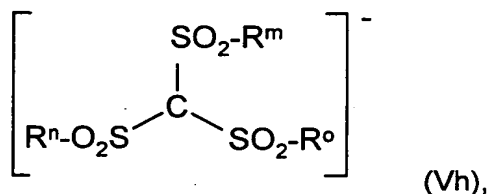
2. The process according to claim 1, wherein a purified 1,3-substituted imidazolium salt (I) in which the radicals R^1 and R^4 are each, independently of one another, methyl, ethyl, 1-propyl, 2-propyl, 1-butyl, 1-pentyl, 1-hexyl, 1-heptyl, 1-octyl, 1-nonyl, 1-decyl, 1-dodecyl, 1-tetradecyl, 1-hexadecyl, 1-octadecyl, 1-(2-ethyl)hexyl, benzyl, 3-phenylpropyl, 6-hydroxyhexyl or phenyl and the radicals R^2 and R^3 are each, independently of one another, hydrogen, methyl, ethyl, n-propyl, 2-propyl, 1-butyl, 1-hexyl, 6-hydroxyhexyl, phenyl or chlorine is prepared.
3. The process according to claim 1 or 2, wherein a purified 1,3-substituted imidazolium salt (I) in which the anion A^{a-} is
 - fluoride; hexafluorophosphate; hexafluoroarsenate; hexafluoroantimonate; trifluoroarsenate; nitrite; nitrate; sulfate; hydrogensulfate; carbonate; hydrogencarbonate; phosphate; hydrogenphosphate; dihydrogenphosphate; vinyl phosphonate; dicyanamide; bis(pentafluoroethyl)phosphinate; tris(pentafluoroethyl)trifluorophosphate; tris(heptafluoropropyl)trifluorophosphate; bis[oxalato(2-)]borate; bis[salicylato(2-)]borate; bis[1,2-benzenediolato(2-)O,O']borate; tetracyanoborate; tetracarbonylcobaltate; tetrasubstituted borate of the formula (Va) $[BR^aR^bR^cR^d]^-$, where R^a to R^d are each, independently of one another, fluorine or a carbon-comprising organic, saturated or unsaturated, acyclic or cyclic, aliphatic, aromatic or araliphatic radical which has from 1 to 30 carbon atoms and may comprise one or more heteroatoms and/or be substituted by one or more functional groups or halogens; organic sulfonate of the formula (Vb) $[R^e-SO_3]^-$, where R^e is a carbon-comprising organic, saturated or unsaturated, acyclic or cyclic, aliphatic, aromatic or araliphatic radical which has from 1 to 30 carbon atoms and may comprise one or more heteroatoms and/or be substituted by one or more functional groups or halogens; carboxylate of the formula (Vc) $[R^f-COO]^-$, where R^f is hydrogen or a carbon-

comprising organic, saturated or unsaturated, acyclic or cyclic, aliphatic, aromatic or araliphatic radical which has from 1 to 30 carbon atoms and may comprise one or more heteroatoms and/or be substituted by one or more functional groups or halogens;

(fluoroalkyl)fluorophosphates of the formula (Vd) $[PF_x(C_yF_{2y+1-z}H_z)_{6-x}]^-$, where $1 \leq x \leq 6$, $1 \leq y \leq 8$ and $0 \leq z \leq 2y+1$;

imide of the formula (Ve) $[R^g-SO_2-N-SO_2-R^h]^-$, (Vf) $[R^i-SO_2-N-CO-R^j]^-$ or (IVg) $[R^k-CO-N-CO-R^l]^-$, where R^g to R^l are each, independently of one another, hydrogen or a carbon-comprising organic, saturated or unsaturated, acyclic or cyclic, aliphatic, aromatic or araliphatic radical which has from 1 to 30 carbon atoms and may comprise one or more heteroatoms and/or be substituted by one or more functional groups or halogens;

methide of the formula (Vh)



where R^m to R^o are each, independently of one another, hydrogen or a carbon-comprising organic, saturated or unsaturated, acyclic or cyclic, aliphatic, aromatic or araliphatic radical which has from 1 to 30 carbon atoms and may comprise one or more heteroatoms and/or be substituted by one or more functional groups or halogens;

organic sulfate of the formula (Vi) $[R^p\text{O-SO}_3]^-$, where R^p is a carbon-comprising organic, saturated or unsaturated, acyclic or cyclic, aliphatic, aromatic or araliphatic radical which has from 1 to 30 carbon atoms and may comprise one or more heteroatoms and/or be substituted by one or more functional groups or halogens; or

halometalate of the formula (Vj) $[M_q\text{Hal}_r]^s$, where M is a metal and Hal is fluorine, chlorine, bromine or iodine, q and r are positive integers and indicate the stoichiometry of the complex and s is a positive integer and indicates the charge on the complex;

is prepared.

4. The process according to any of claims 1 to 3, wherein a purified 1,3-substituted imidazolium salt (I) in which the anion A^{a-} is tetrafluoroborate,
5 hexafluorophosphate, trifluoromethanesulfonate, methanesulfonate, formate, acetate, mandelate, nitrate, nitrite, trifluoroacetate, sulfate, hydrogensulfate, methyl sulfate, ethyl sulfate, propyl sulfate, butyl sulfate, pentyl sulfate, hexyl sulfate, heptyl sulfate, octyl sulfate, phosphate, dihydrogenphosphate, hydrogenphosphate, propionate, tetrachloroaluminate, $Al_2Cl_7^-$, chlorozincate,
10 chloroferrate, bis(trifluoromethylsulfonyl)imide, bis(pentafluoroethylsulfonyl)imide, tris(trifluoromethylsulfonyl)methide, bis(pentafluoroethylsulfonyl)methide, p-toluenesulfonate, bis[salicylato(2-)]borate, tetracarbonylcobaltate, dimethylene glycol monomethyl ether sulfate, octyl sulfate, oleate, stearate, acrylate, methacrylate, maleate, hydrogencitrate, vinyl phosphonate,
15 bis(pentafluoroethyl)phosphinate, bis[oxalato(2-)]borate, bis[1,2-benzenediolato(2-)O,O']borate, dicyanamide, tris(pentafluoroethyl)trifluorophosphate, tris(heptafluoropropyl)trifluorophosphate, tetracyanoborate or chlorocobaltate is prepared.
- 20 5. The process according to any of claims 1 to 4, wherein a 1,3-substituted imidazolium salt (II) in which the anion Y^{x-} is chloride, bromide, methanesulfonate, hydrogencarbonate, carbonate, hydrogensulfate, diethylphosphate, tosylate or methyl sulfate is prepared.
- 25 6. The process according to any of claims 1 to 5, wherein the 1,3-substituted imidazol-2-ylidene which has been distilled off is brought into contact in the gaseous state with gaseous protic acid H_aA (III) and the condensed, purified 1,3-substituted imidazolium salt (I) is isolated.
- 30 7. The process according to any of claims 1 to 5, wherein the 1,3-substituted imidazol-2-ylidene which has been distilled off is passed in the gaseous state into a receiver comprising the protic acid H_aA (III) and the purified 1,3-substituted imidazolium salt (I) is isolated therefrom.
- 35 8. The process according to any of claims 1 to 5, wherein the 1,3-substituted imidazol-2-ylidene which has been distilled off is condensed in a condenser, passed in the condensed state into a distillation receiver comprising the protic acid H_aA (III) and the purified 1,3-substituted imidazolium salt (I) is isolated therefrom.

9. The process according to any of claims 1 to 8, wherein the distillation is carried out at a pressure of from 0.0001 to 0.15 MPa abs.